

**II. AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application. Fees in the amount of \$2100.00 are included for the additional claims as follows:

Added claims: 26 @ \$50.00 = \$1300.00

Added Independent Claims: 5

Total Independent Claims: 7

Independent claims in excess of 3: 4 @ \$200.00 = \$ 800.00

Total Fee paid: \$2100.00

**Listing of Claims:**

1-84. (Cancelled)

85. (Original): A method of automated sample processing comprising the steps of:  
establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions;  
scheduling a plurality of sample process operations;  
systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur;  
automatically processing at least one sample at least in part through operation of said robotic sample process functions sequencing through said scheduled plurality of sample process operations; and  
accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations; and  
providing information relative to said plurality of sample process operations to at least one person.

86. (Original): A method of automated sample processing as described in claim 85 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the step of establishing an automated slide processing system.
87. (Original): A method of automated sample processing as described in claim 86 wherein said step of automatically processing at least one sample comprises the steps of:  
arranging a plurality of slides on a carrier retainment assembly;  
applying a reagent to said plurality of slides; and  
automatically staining said plurality of slides.
88. (Original): A method of automated sample processing as described in claim 87 wherein said step of establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions comprises the steps of:  
establishing a plurality of automated slide stainers; and  
electronically connecting said plurality of automated slide stainers.
89. (Previously presented): A method of automated sample processing as described in claim 85 and further comprising the step of establishing a local area network electronically connected to said automated sample processing system.
90. (Previously presented): A method of automated sample processing as described in claim 87 and further comprising the step of holding said plurality of slides on at least one movable carrier retainment assembly.
91. (Original): A method of automated sample processing as described in claim 87 wherein said step of systematically storing important details of a significant

number of said plurality of sample process operations as such sample process operations occur comprises the steps of:

systematically storing time of occurrence data,  
systematically storing substance identifier data,  
systematically storing individual robotic movement data,  
systematically storing subject sample data, and  
systematically storing type of protocol data.

92. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing details selected from a group consisting of:

time of occurrence data, number of occurrence data, part operation data, amount of usage data, amount of material used data, type of material used data, substance identifier data, individual movement data, robotic action data, individual robotic movement data, individual operation data, individual usage data, actual date data, actual time data, precise time data, relative time data, absolute time data, initiation time data, completion time data, subject sample data, sample image data, individual sample process data, individual slide log data, system image data, substance image data, and type of protocol data.

93. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing amount of material used data.

94. (Original): A method of automated sample processing as described in claim 92 wherein said step of systematically storing important details of a significant

number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing robotic action data.

95. (Original): A method of automated sample processing as described in claim 94 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing individual robotic movement data.
96. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing precise time data.
97. (Original): A method of automated sample processing as described in claim 96 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing relative time data.
98. (Original): A method of automated sample processing as described in claim 96 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing absolute time data.
99. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing image data.

100. (Original): A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing sample image data.
101. (Original): A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing substance image data.
102. (Original): A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing system image data.
103. (Previously presented): A method of automated sample processing as described in claim 99 wherein said step of systematically storing image data comprises the step of systematically storing multiple image data.
104. (Original): A method of automated sample processing as described in claim 103 wherein said step of systematically storing multiple image data comprises the step of systematically storing pre- and post-event image data.
105. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a segmented computer file.
106. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating an inalterable computer record.

107. (Original): A method of automated sample processing as described in claim 106 wherein said step of creating an inalterable computer record comprises the step of creating integral change indicia as part of said inalterable computer record.
108. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a common format computer record.
109. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of creating a proprietary format computer record.
110. (Original): A method of automated sample processing as described in claim 85 wherein said step of accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations comprises the step of providing a software selection to a user.
111. (Original): A method of automated sample processing as described in claim 85 wherein said step of accepting a prompt from a user to display at least a portion of said important details of a significant number of said plurality of sample process operations comprises the step of utilizing a remote access connection.
112. (Original): A method of automated sample processing as described in claim 85 wherein said step of providing information relative to said plurality of sample process operations to at least one person comprises the step of displaying at least a portion of said information.

113. (Original): A method of automated sample processing as described in claim 112 wherein said step of displaying at least a portion of said information comprises the step of remotely displaying at least a portion of said information.
114. (Previously presented): A method of automated sample processing as described in claim 85 wherein said step of displaying at least a portion of said information comprises the step of real time displaying at least a portion of said information.
115. (Original): A method of automated sample processing as described in claim 112 wherein said step of displaying at least a portion of said information comprises the step of creating a simulated motion display from at least a portion of said information.
116. (Original): A method of automated sample processing as described in claim 85 wherein said step of providing information relative to said plurality of sample process operations to at least one person comprises the step of providing a sequential playback capability.
117. (Original): A method of automated sample processing as described in claim 116 wherein said step of providing a sequential playback capability comprises the step of providing an altered speed sequential playback capability.
118. (Original): A method of automated sample processing as described in claim 117 wherein said step of providing an altered speed sequential playback capability comprises the step of providing a user alterable speed sequential playback capability.
119. (Original): A method of automated sample processing as described in claim 117 wherein said step of providing an altered speed sequential playback capability comprises the step of providing a high speed sequential playback capability.

120. (Original): A method of automated sample processing as described in claim 85 wherein said step of systematically storing important details of a significant number of said plurality of sample process operations as such sample process operations occur comprises the step of systematically storing individual slide log data.
121. (Original): A method of automated sample processing as described in claim 85 and further comprising the step of real time displaying individual slide log data.
122. (Original): An automated sample processing system comprising:  
at least one sample arranged on a carrier element;  
a process operation control system configured to at least partially process said sample;  
robotic motion system responsive to said process operation control system;  
a multiple event scheduler to which said robotic motion system is at least in part responsive;  
systematic process detail capture element;  
a significant process detail memory responsive to said systematic process detail capture element and that stores at least some significant process data;  
an information access prompt element to which said significant process data is responsive; and  
a significant process data transfer element.
123. (Original): An automated sample processing system as described in claim 122 wherein said at least one sample arranged on a carrier element comprises a biological sample arranged on a slide.
124. (Original): An automated sample processing system as described in claim 123 wherein said process operation control system configured to at least partially process said sample comprises:



a plurality of slides on a carrier element retainment assembly;  
at least one reagent container; and  
a slide stain element configured to act upon said plurality of slides.

125. (Original): An automated sample processing system as described in claim 124 and further comprising:  
a plurality of automated slide stainers; and  
an electronic connection to said plurality of automated slide stainers.
126. (Previously presented): An automated sample processing system as described in claim 122 and further comprising a local area network electronically connected to a stand alone automated slide processing system.
127. (Previously presented): An automated sample processing system as described in claim 124 wherein said carrier element comprises a movable carrier element.
128. (Original): An automated sample processing system as described in claim 124 wherein said systematic process detail capture element comprises:  
a time of occurrence data capture element,  
an individual robotic movement data capture element,  
a substance identifier data capture element,  
a subject sample data capture element, and  
a type of protocol data capture element.
129. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises a systematic process detail capture element selected from a group consisting of:  
a time of occurrence data capture element, a number of occurrence data capture element, a part operation data capture element, an amount of usage data capture element, an amount of material used data capture element, a type of material used

data capture element, a substance identifier data capture element, an individual movement data capture element, a robotic action data capture element, an individual robotic movement data capture element, an individual operation data capture element, an individual usage data capture element, an actual date data capture element, an actual time data capture element, a precise time data capture element, a relative time data capture element, an absolute time data capture element, an initiation time data capture element, a completion time data capture element, a subject sample data capture element, a sample image data capture element, an individual sample process data capture element, individual slide log data capture element, a system image data capture element, a substance image data capture element, and a type of protocol data capture element.

130. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an amount of material used data capture element.
131. (Original): An automated sample processing system as described in claim 129 wherein said systematic process detail capture element comprises a robotic action data capture element.
132. (Original): An automated sample processing system as described in claim 131 wherein said systematic process detail capture element comprises an individual robotic movement data capture element.
133. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises a precise time data capture element.
134. (Original): An automated sample processing system as described in claim 133 wherein said systematic process detail capture element comprises a relative time data capture element.

135. (Original): An automated sample processing system as described in claim 133 wherein said systematic process detail capture element comprises an absolute time data capture element.
136. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an image data capture element.
137. (Original): An automated sample processing system as described in claim 136 wherein said image data capture element comprises a sample image data capture element.
138. (Original): An automated sample processing system as described in claim 136 wherein said image data capture element comprises a substance image data capture element.
139. (Original): An automated sample processing system as described in claim 136 wherein said image data capture element comprises a system image data capture element.
140. (Previously presented): An automated sample processing system as described in claim 136 wherein said image data capture element comprises a multiple image data capture element.
141. (Original): An automated sample processing system as described in claim 140 wherein said multiple image data capture element comprises a pre- and post-event image data capture element.

142. (Original): An automated sample processing system as described in claim 122 wherein said significant process detail memory comprises a segmented computer file memory element.
143. (Original): An automated sample processing system as described in claim 122 wherein said significant process detail memory comprises an inalterable computer record memory element.
144. (Original): An automated sample processing system as described in claim 143 wherein said significant process detail memory comprises an integral change indicia memory element.
145. (Original): An automated sample processing system as described in claim 142 wherein said significant process detail memory comprises a common format computer record memory element.
146. (Original): An automated sample processing system as described in claim 142 wherein said significant process detail memory comprises a proprietary format computer record memory element.
147. (Original): An automated sample processing system as described in claim 122 wherein said information access prompt element comprises a software selection element.
148. (Original): An automated sample processing system as described in claim 122 wherein said information access prompt element comprises a remote access element.
149. (Original): An automated sample processing system as described in claim 122 and further comprising a significant process detail information display that is responsive to said significant process detail memory.

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150. (Original): An automated sample processing system as described in claim 149 wherein said significant process detail information display comprises a remote process detail information display.
151. (Previously presented): An automated sample processing system as described in claim 122 wherein said significant process detail information display comprises a real time process detail information display.
152. (Original): An automated sample processing system as described in claim 149 wherein said significant process detail information display comprises a simulated motion process detail information display.
153. (Original): An automated sample processing system as described in claim 122 and further comprising a sequential playback element.
154. (Original): An automated sample processing system as described in claim 153 wherein said sequential playback element comprises an altered speed sequential playback element.
155. (Original): An automated sample processing system as described in claim 154 wherein said altered speed sequential playback element comprises a user alterable speed sequential playback element.
156. (Original): An automated sample processing system as described in claim 154 wherein said altered speed sequential playback element comprises a high speed sequential playback element.
157. (Original): An automated sample processing system as described in claim 122 wherein said systematic process detail capture element comprises an individual slide log data capture element.

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158. (Original): An automated sample processing system as described in claim 122 and further comprising a real time individual slide log data display.
159. (New): A laboratory instrument information management and control apparatus, comprising:  
a Laboratory Information System (LIS) configured to manage patient and laboratory information;  
at least one laboratory instrument configured to run anatomical pathology tests relating to at least one patient;  
at least one host computer in communication with said at least one laboratory instrument;  
an interface point server (IPS) in communication with said host computer and said LIS, said interface point server configured to function as a communication interface between said host computer and said hospital laboratory information system in a manner responsive to a predetermined communication protocol, and said IPS comprising a first level interface for data communication and control between said LIS and said IPS, and said IPS comprising a second level interface for data communication and control between said at least one laboratory instrument and said IPS.
160. (New): The laboratory instrument information management and control apparatus of claim 159 wherein said at least one laboratory instrument comprises at least two automated slide staining systems, and said second level interface of said IPS controls data communication and control between said at least two automated slide staining systems and said IPS, and said second level interface of said IPS controls data communication and control among said at least two automated slide staining systems.
161. (New): The laboratory instrument information management and control apparatus of claim 159 wherein said at least one laboratory instrument configured

to run tests relating to at least one patient includes said at least one host computer in communication with said at least one laboratory instrument as an integral part of said at least one laboratory instrument.

162. (New): The laboratory instrument information management and control apparatus of claim 159 wherein said predetermined communication protocol governs data exchange, data management and integration of data in accordance with one of Health Level Seven (HL7) protocol, or IEEE 1073 standard for Medical Device Communications.
163. (New): The laboratory instrument information management and control apparatus of claim 159 wherein said at least one host computer is in communication with said at least one laboratory instrument via at least one of a wireless connection, a serial connection, a parallel connection and an Ethernet connection.
164. (New): The laboratory instrument information management and control apparatus of claim 159 wherein said hospital laboratory information system is in communication with the interface point server via at least one of an Ethernet connection and an Internet connection.
165. (New): The laboratory instrument information management and control apparatus of claim 159 wherein said at least one laboratory instrument comprises at least two automated slide staining systems, and said second level interface controls data sharing among said at least two automated slide staining systems.
166. (New): The laboratory instrument information management and control apparatus of claim 165 wherein said data sharing among said at least two automated slide staining systems includes data comprising staining protocols; user passwords and privileges; reagent dispensers; reagent vials; cases; keycodes; templates; panels; and 3<sup>rd</sup> party reagents.

167. (New): The laboratory instrument information management and control apparatus of claim 159 wherein said laboratory information system manages the workflow for anatomical pathology in a laboratory, including at least one of pathology order placement; slide processing optimization on multiple instruments; slide identification through the process; bar code use; reagent use and supply; reagent sharing between laboratory instruments; and operator in-service qualification.
168. (New): The laboratory instrument information management and control apparatus of claim 159 wherein said laboratory information system is a hospital laboratory information system.
169. (New) A method for communication between a laboratory information system and at least one host computer comprising the steps of:  
configuring an interface point network including an interface point server (IPS) in communication with a laboratory information system and at least one host computer managing data and control for at least one anatomical pathology laboratory instrument, said at least one host computer including host data and being in communication with said at least one laboratory instrument;  
operating said interface point server to broadcast a message across said interface point network, wherein said message includes information responsive to data present on said IPS;  
determining if differences exist between said host data and said data present on said IPS; and  
updating at least one of said IPS and said at least one host computer in a manner responsive to at least one of said host data and said data present on said IPS.
170. (New) The method of claim 169 wherein said at least one host computer comprises more than one host computer and the method further includes the step of sharing of data among said more than one host computer.



171. (New) The method of claim 170 wherein said sharing of data among said more than one host computer includes data comprising staining protocols; user passwords and privileges; reagent dispensers; reagent vials; cases; keycodes; templates; panels; and 3<sup>rd</sup> party reagents.
172. (New) The method of claim 169 wherein said laboratory information system manages the workflow for anatomical pathology in a laboratory, including at least one of pathology order placement; slide processing optimization on multiple instruments; slide identification through the process; bar code use; reagent use and supply; reagent sharing between laboratory instruments; and operator in-service qualification.
173. (New) The method of claim 169 wherein said at least one host computer managing data and control for at least one anatomical pathology laboratory instrument is an integral part of said at least one laboratory instrument
174. (New) The method of claim 169 wherein said interface point server (IPS) in communication with said laboratory information system communicates via a predetermined communication protocol that governs data exchange, data management and integration of data in accordance with one of Health Level Seven (HL7) protocol, or IEEE 1073 standard for Medical Device Communications.
175. (New) A method for laboratory instrument information management and control, comprising the steps of:  
configuring a Laboratory Information System (LIS) to manage patient and laboratory information in accordance with Health Level Seven protocol;  
configuring at least two automated slide staining laboratory instruments to run anatomical pathology tests relating to at least one patient;

configuring at least one host computer in communication with said at least two slide staining laboratory instruments;

configuring a server in communication with said at least one host computer and said LIS, said server comprising a first level interface for data communication and control between said LIS and said server, and said server comprising a second level interface for data communication and control between said at least two automated slide staining laboratory instruments and said server, wherein said server is further configured for data sharing among said at least one host computer and said at least two automated slide staining laboratory instruments.

176. (New) The method for laboratory instrument information management and control of claim 175 wherein said data sharing among said at least two automated slide staining laboratory instruments includes data comprising staining protocols; user passwords and privileges; reagent dispensers; reagent vials; cases; keycodes; templates; panels; and 3<sup>rd</sup> party reagents.
177. (New) The method for laboratory instrument information management and control of claim 175 wherein said laboratory information system manages the workflow for anatomical pathology in a laboratory, including at least one of pathology order placement; slide processing optimization on multiple instruments; slide identification through the process; bar code use; reagent use and supply; reagent sharing between laboratory instruments; and operator in-service qualification.
178. (New) The method of claim 175 wherein said server in communication with said laboratory information system communicates via a predetermined communication protocol that governs data exchange, data management and integration of data in accordance with one of Health Level Seven (HL7) protocol, or IEEE 1073 standard for Medical Device Communications.

179. (New): A method of automated sample processing comprising the steps of:  
establishing an automated sample processing system having an automated process operation capability that causes automated process operation events through robotic sample process functions;  
monitoring operationally-influential exteriorly-consequential information;  
automatically processing at least one sample at least in part through operation of said robotic sample process functions; and  
automatically informing at least one person of at least some exteriorly-consequential information in response to said step of monitoring operationally-influential exteriorly-consequential information.
180. (New): A method of automated sample processing as described in claim 179 wherein said step of establishing an automated sample processing system comprises the step of incorporating a system having a feature selected from a group consisting of:  
an Ethernet element, a token ring element, an arcnet element, a fiber distributed data interface element, an industry specification protocol, a bluetooth-based element, a shared common link element, a transmission control protocol/internet protocol communication element, a packetized information protocol, a shared protocol, a proprietary protocol, a layered protocol exchange system, an intermediate computer functionality, a separate full function computer programmed for operation with an automated slide processing system, a server functionality, a processing system interaction functionality, a processing data communication functionality between a first stand alone automated sample processing system and a second stand alone automated sample processing system, a scalable connection, an address-based connection, an address-based electronic communications prompt functionality on a separate full function computer electrically connected to a first stand alone automated sample processing system and a second stand alone automated sample processing system, a request transfer functionality to which a first stand alone automated sample processing system is responsive, an address-based electronic communications prompt functionality on

a first stand alone automated sample processing system, a response transfer functionality to which a separate full function computer is responsive, a local area network, and a local area network electronically connected to an automated sample processing system.

181. (New): An automated sample processing system comprising:  
at least one sample arranged on a carrier element;  
a process operation control system configured to at least partially process said sample;  
robotic motion system responsive to said process operation control system;  
an operationally-influential exteriorly-consequential information monitor; and  
an automatic exteriorly-consequential information notice element responsive to said operationally-influential exteriorly-consequential information monitor.
182. (New): An automated sample processing system as described in claim 181 wherein said process operation control system comprises a system having a feature selected from a group consisting of:  
an Ethernet element, a token ring element, an arcnet element, a fiber distributed data interface element, an industry specification protocol, a bluetooth-based element, a shared common link element, a transmission control protocol/internet protocol communication element, a packetized information protocol, a shared protocol, a proprietary protocol, a layered protocol exchange system, an intermediate computer functionality, a separate full function computer programmed for operation with an automated slide processing system, a server functionality, a processing system interaction functionality, a processing data communication functionality between a first stand alone automated sample processing system and a second stand alone automated sample processing system, a scalable connection, an address-based connection, an address-based electronic communications prompt functionality on a separate full function computer electrically connected to a first stand alone automated sample processing system and a second stand alone automated sample processing system, a request transfer

functionality to which a first stand alone automated sample processing system is responsive, an address-based electronic communications prompt functionality on a first stand alone automated sample processing system, a response transfer functionality to which a separate full function computer is responsive, a local area network, and a local area network electronically connected to an automated sample processing system.

183. (New): A method of automated sample processing as described in claim 85 wherein said step of establishing an automated sample processing system comprises the step of incorporating a system having a feature selected from a group consisting of:

an Ethernet element, a token ring element, an arcnet element, a fiber distributed data interface element, an industry specification protocol, a bluetooth-based element, a shared common link element, a transmission control protocol/internet protocol communication element, a packetized information protocol, a shared protocol, a proprietary protocol, a layered protocol exchange system, an intermediate computer functionality, a separate full function computer programmed for operation with an automated slide processing system, a server functionality, a processing system interaction functionality, a processing data communication functionality between a first stand alone automated sample processing system and a second stand alone automated sample processing system, a scalable connection, an address-based connection, an address-based electronic communications prompt functionality on a separate full function computer electrically connected to a first stand alone automated sample processing system and a second stand alone automated sample processing system, a request transfer functionality to which a first stand alone automated sample processing system is responsive, an address-based electronic communications prompt functionality on a first stand alone automated sample processing system, a response transfer functionality to which a separate full function computer is responsive, a local area network, and a local area network electronically connected to an automated sample processing system.

184. (New): An automated sample processing system as described in claim 122 wherein said process operation control system comprises a system having a feature selected from a group consisting of:
- an Ethernet element, a token ring element, an arcnet element, a fiber distributed data interface element, an industry specification protocol, a bluetooth-based element, a shared common link element, a transmission control protocol/internet protocol communication element, a packetized information protocol, a shared protocol, a proprietary protocol, a layered protocol exchange system, an intermediate computer functionality, a separate full function computer programmed for operation with an automated slide processing system, a server functionality, a processing system interaction functionality, a processing data communication functionality between a first stand alone automated sample processing system and a second stand alone automated sample processing system, a scalable connection, an address-based connection, an address-based electronic communications prompt functionality on a separate full function computer electrically connected to a first stand alone automated sample processing system and a second stand alone automated sample processing system, a request transfer functionality to which a first stand alone automated sample processing system is responsive, an address-based electronic communications prompt functionality on a first stand alone automated sample processing system, a response transfer functionality to which a separate full function computer is responsive, a local area network, and a local area network electronically connected to an automated sample processing system.